

The process is also capable of initiating an energy transfer in response to the change of capacitance caused by the touch of a finger tip.

[0098] While particular embodiments of the present invention have been shown and described, it will be obvious to those skilled in the art that, based upon the teachings herein, changes and modifications may be made without departing from this invention and its broader aspects. Therefore, the appended claims are intended to encompass within their scope of all such changes and modifications as are within the true spirit and scope of the exemplary embodiment(s) of the present invention.

What is claimed is:

1. A haptic device, comprising:
 - a touch surface capable of sensing a first event;
 - a substrate situated adjacent to the touch surface with a separation gap between the substrate and the touch surface, and configured to provide first haptic feedback in response to the first event; and
 - plasma capable of accumulating at one or more pockets located in the separation gap, and configured to facilitate the first haptic feedback via energy transfer.
2. The device of claim 1, wherein a touch surface is a flexible deformable touch pad.
3. The device of claim 2, wherein a touch surface capable of sensing a first event is configured to detect a contact when the touch surface deforms in response to a depression by a finger.
4. The device of claim 2, wherein a touch surface capable of sensing a first event is configured to detect a contact when the touch surface deforms in response to a contact by a stylus.
5. The device of claim 1,
 - wherein the touch surface is capable of sensing a second event independent of the first event;
 - wherein the separation gap includes a plurality of plasma pockets capable of housing a portion of the plasma; and
 - wherein the substrate generates second haptic feedback in response to the second event.
6. The device of claim 1, further comprising a sensor capable of sensing capacitance from a touch of the touch surface by an object.
7. The device of claim 1, wherein the substrate is coupled to a power supply and is capable of producing the plasma.
8. The device of claim 1,
 - wherein the flexible surface is a touch-sensitive surface capable of sensing a touch on its surface; and
 - wherein the plasma is ionized gas having free electrons.
9. The device of claim 1, wherein the energy transfer includes a plasma strike moving from the substrate to the touch surface.
10. A method of providing haptic feedback, comprising:
 - generating plasma facilitated by a substrate capable of drawing current from a power source;
 - placing a touch surface over the substrate with a separation gap between the touch surface and the substrate;
 - aggregating plasma in the separation gap;
 - detecting a contact over a first surface of the touch surface; and
 - transferring energy from the substrate through plasma to the touch surface in response to the contact.
11. The method of claim 10, further comprising:
 - coupling a substrate with a power source; and
 - coupling a touch sensitive device to the touch surface for detecting the contact.
12. The method of claim 10, wherein generating plasma facilitated by a substrate capable of drawing current from a power source includes providing ionized gas with free electrons.

13. The method of claim 10, wherein placing a touch surface over the substrate having a separation gap between the touch surface and the substrate includes:

- depositing a touch-sensitive flexible surface capable of sensing a depressing by a user's finger; and
- dividing the separation gap into a plurality of pockets capable of housing plasma.

14. The method of claim 10, wherein placing a touch surface over the substrate having a separation gap between the touch surface and the substrate includes:

- depositing a touch-sensitive surface capable of sensing a finger capacitance from a touch by a user's finger; and
- dividing the separation gap into a plurality of pockets capable of housing plasma.

15. The method of claim 10, wherein aggregating plasma in the separation gap further includes filling one or more pockets in the separation gap with ionized gas with negative carriers.

16. The method of claim 10, wherein detecting a contact over a first surface of the touch surface further includes sensing a depression of a finger tip on a deformable touch surface.

17. The method of claim 16, wherein transferring energy from the substrate through plasma to the touch surface further includes providing tactile feedback to the contact at the first surface in response to energy transfer from plasmas gas via a second surface of the touch surface to the first surface.

18. The method of claim 10, wherein transferring energy from the substrate through plasma to the touch surface includes releasing static discharge built up by the plasma.

19. The method of claim 10, wherein detecting a contact over a first surface of the touch surface further includes sensing a change of capacitance caused by a touch of a finger tip on the touch surface.

20. The method of claim 19, wherein transferring energy from the substrate through plasma to the touch surface further includes initiating an energy transfer in response to the change of capacitance caused by the touch of a finger tip.

21. The method of claim 10, wherein detecting a contact over a first surface of the touch surface further includes sensing a contact by an object on a deformable touch surface.

22. The method of claim 21, wherein sensing a contact by an object on a deformable touch surface includes detecting a touch on the first surface of the touch surface by a stylus.

23. An apparatus of providing haptic feedback, comprising:

- means for generating plasma facilitated by a substrate capable of drawing current from a power source;
- means for placing a touch surface over the substrate with a separation gap between the touch surface and the substrate;
- means for aggregating plasma in the separation gap;
- means for detecting a contact over a first surface of the touch surface; and
- means for transferring energy from the substrate through plasma to the touch surface in response to the contact.

24. The apparatus of claim 23, further comprising:

- means for coupling a substrate with a power source; and
- means for coupling a touch sensitive device to the touch surface for detecting the contact.

25. The apparatus of claim 23, wherein means for generating plasma facilitated by a substrate capable of drawing current from a power source includes means for providing ionized gas with free electrons.